MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2022/2023

BDS3034 – DATA MINING AND DECISION SUPPORT

(All Sections/Groups)

06 JULY 2023
9.00 a.m - 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 2 pages with 4 questions only.
2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

(a) i) Give an example where data mining is crucial to the success of a business. (2 marks)

ii) What data mining functionalities does this business need (i.e. think of the kinds of patterns that could be mined)? (5 marks)

iii) Can such patterns be generated alternatively by data query processing and simple statistical analysis? (8 marks)

(b) Data quality can be assessed in terms of several issues, discuss **FIVE (5)** issues with an example for each issue that you have identified. (10 marks)

(Total: 25 marks)

QUESTION 2

(a) Assuming that the data for analysis comprises the percentage of body fat for 18 randomly tested patients with the following result:

Patient	P1	P2	P3	P4	P5	P6	P7	P8	P9
%Fat	9.5	26.5	7.8	17.8	31.4	25.9	27.4	27.2	31.2
Patient	P10	P11	P12	P13	P14	P15	P16	P17	P18
%Fat	34.6	42.5	28.8	33.4	30.2	34.1	32.9	41.2	35.7

(i) Calculate the mean and median of %Fat. (2 marks)

(ii) What is the mode of %Fat? Comment on the data's modality that you have discovered. (2 marks)

(iii) Identify the first quartile (Q1) and the third quartile (Q3) for %Fat. (2 marks)

(iv) Draw the boxplots for %Fat. (3 marks)

(b) Discuss **FOUR (4)** capabilities of computing that can facilitate managerial decision making. (8 marks)

(c) Describe the **FOUR (4)** main components of a Decision Support Systems (DSS). (8 marks)

(Total: 25 marks)

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QUESTION 3

(a) Discuss **FOUR (4)** reasons that led to decision making being so complex in today's business environment. (12 marks)

(b) Do you agree that Group Decision Support Systems (GDSS) could increase the benefits of collaboration and decision making in groups and eliminate or reduce some of the losses? Discuss. (13 marks)

(Total: 25 marks)

QUESTION 4

Assuming that UMM bank has a data mining system. You are their customer and holding a saving account as well as utilizing their debit and credit card services.

(a) Discuss **FOUR (4)** reasons why decision makers in the bank industry use data mining. (8 marks)

(b) Discuss **TWO (2)** issues which data mining system used by UMM bank might conflict with your right to privacy. (8 marks)

(c) Identify and discuss **ONE** other data mining application area besides financial industry that has been discussed above. Your discussion should include how different forms of data mining can be used in the application. (9 marks)

(Total: 25 marks)

End of Paper.